



Department of Local Government Finance

2020 Level II Cost Approach





Level II Prep Class

- Material will cover:
 - Book 2 Real Property Assessment Guidelines
 - Chapter 6 – Commercial and Industrial Units
 - Chapter 7 – Commercial and Industrial Yard Structures
 - Chapter 8 – Special Use Commercial Properties
 - Chapter 9 – Utility Properties





Level II Prep Class

- Material will cover (cont):
 - Appendix D – General Commercial Models
 - Appendix E – Commercial and Industrial Grade
 - Appendix F – Commercial and Industrial Depreciation
 - Appendix G – Commercial and Industrial Cost Schedules





Commercial and Industrial Units Guidelines Chapter 6





Guidelines Chapter 6

- Methods Used to Complete the Property Record Card: (all found on page 4)
 - Sketching a structure
 - Measuring and calculating areas
 - Using the general commercial models
 - Using schedules
 - Understanding base rates for floor levels





Guidelines Chapter 6

- Determining a structure's finish type
- Determining a structure's use type
- Determining a structure's wall type
- Using a structure's floor height
- Understanding the perimeter-to-area ratio for a structure
- Determining a structure's construction type





Guidelines Chapter 6

- Understanding vertical and horizontal costs
- Determining the number of property record cards to use for a parcel





Guidelines Chapter 6

- Sketching a structure: (page 5)
 - If more than one structure is listed on the same card, number each one for identification purposes.
 - Draw the structure to approximate scale.
 - Draw the structure with the side facing the street towards the bottom of the sketch grid.





Guidelines Chapter 6

- Write the dimensions inside the sketch area as close to the corresponding lines as possible.
- Record the story height of the structure.
- Identify all party walls (walls held in common ownership between two structures).
- Identify all additions by name and exterior wall construction.





Guidelines Chapter 6

- Measuring and Calculating Areas: (page 6)
 - Measure sufficient outside dimensions of the structure to compute the gross square footage of the ground area.
 - Enter all the measurements carefully on the sketch grid.





Guidelines Chapter 6

- Using the General Commercial Models (page 7)
 - Conceptual tools used to assist in estimating the replacement cost new of a given structure.
 - Assumes that there are certain elements of construction for a given use type.





Guidelines Chapter 6

- Used to determine if adjustments are applicable between the subject structure being valued and the model selected for use.





Guidelines Chapter 6

- Using the Schedules (page 8)
 - Schedule A – Base Rates
 - Provides base square foot unit rates by floor for various use and finish types.
 - Rates are for a range of perimeter-to-area ratios for a specific type of construction.





Guidelines Chapter 6

- Schedule A.1 – General Commercial Mercantile (GCM) (page 10)
- Includes use types generally associated with mercantile districts.
 - Banks, medical offices, apartments, shopping centers, etc.
 - Structures with four or more stories.
 - Use types characteristic of commercial-type construction.





Guidelines Chapter 6

- Schedule A.2 – General Commercial Industrial (GCI)
(page 10)
- Includes use types generally associated with industrial-related operations.
 - Mill manufacturing, industrial offices, light and heavy manufacturing, warehouses, etc.





Guidelines Chapter 6

- Schedule A.3 – General Commercial Residential (GCR) (page 10)
- Includes use types generally associated with commercially-operated residential accommodations.
 - Structures that have up to three stories.
 - Apartments, motel units, nursing homes, etc.
 - If 4 or more stories, use GCM schedule.
 - If structure is fire resistant, cannot use GCR to price.





Guidelines Chapter 6

- Schedule A.4 – General Commercial Kit (GCK) (page 10)
- Is used to value light pre-engineered and pre-designed wood pole and metal framed structures with exterior walls of light metal or wood that are used for commercial and industrial purposes only.





Guidelines Chapter 6

- Schedule B – Base Price Adjustment (page 11)
 - Provides adjustments to total base unit rate obtained from Schedule A for story height variations.
 - Required to account for added construction costs of supports and material handling for multiple story construction.





Guidelines Chapter 6

- Schedule C – GC Base Price Components and Adjustments (page 11)
 - Three sub-schedules (all on page 11)
 - Base Price Components and Adjustments
 - Unit Cost Adjustments
 - Unit Finish Adjustments





Guidelines Chapter 6

- Base Price Components and Adjustments
 - Indicates the cost of the interior and mechanical components included in the base rate unless otherwise noted.
 - All component prices are expressed as square foot rates except for column headed “Walls per LF” under the “Interior Finish” heading.
 - Includes guidelines to help in adjusting base rate for lighting.





Guidelines Chapter 6

- Unit Cost Adjustments
 - Table of unit costs for the most typical interior components.
- Unit Finish Adjustments
 - Tables of composite adjustments rather than individual component adjustments.
 - Applies to apartments, motels and hotels.





Guidelines Chapter 6

- Schedule D – Plumbing (page 11)
 - Whole dollar values to be added per plumbing fixture unless otherwise noted.





Guidelines Chapter 6

- Schedule E – Special Features (page 12)
 - Either whole dollar or square foot unit values used to calculate the whole dollar replacement cost of special features not included in the Schedule A base rates.
 - Mezzanines, elevators, cold storage facilities, money vaults, record storage vaults, grade walls for truck wells and ramps.





Guidelines Chapter 6

- Schedule F – Quality Grade and Design Factor (page 12)
 - Provides the grade factor percentages corresponding to the grade classifications for commercial and industrial structures.
 - Prices reflect a “C” grade.





Guidelines Chapter 6

- Base rates for floor levels (page 12)
 - Includes the cost of the exterior walls, exterior wall openings, and interior components (interior finish, partitioning, built-ins, and mechanical features typical for that particular model).





Guidelines Chapter 6

- Also includes the following structural components:
- Basement-level:
 - Excavation and back-fill, the cost of which exceeds the cost of the inclusions for the first floor.
 - Structural floor construction of the first floor (subfloor and framing).
 - Stairways and access ways.





Guidelines Chapter 6

- First-level:
 - Site preparation and normal foundation construction for a structure at grade level.
 - Concrete ground floor slab, including base and cement finish.
 - Roof construction (roofing, insulation, decking and framing).
 - Wall copings and parapets.
 - Utility service.





Guidelines Chapter 6

- Upper-level:
 - Structural floor construction (subfloor and framing for each respective floor.
 - Stairways and access ways.





Guidelines Chapter 6

- Determining a Structure's Finish type (page 13)
 - In Schedule A, finish type is a descriptive classification indicating the extent to which the interior finish is included in the base rate.





Guidelines Chapter 6

- Determining a Structure's Use Type (page 14)
 - Descriptive classification indicating the commercial and industrial use model that best describes the structure.





Guidelines Chapter 6

- Determining a Structure's Wall Type (page 14)
 - Descriptive classification indicating the exterior wall construction material used for most of the use types.
 - Most all use types use Type 1 or Type 2.
 - Type 3 is used with GCI use types.
 - Type 4 is only for parking garages.





Guidelines Chapter 6

- Determining a Structure's Wall Height (page 14)
 - Model specific and represents floor-to-floor or floor-to-roof heights.
 - Defined as the vertical distance from the top of the interior floor to either the top of the next upper interior floor or to the eave of the roof.





Guidelines Chapter 6

- Understanding Vertical and Horizontal Costs (page 15)
- Vertical Cost components:
 - Structural components that are vertical in nature.
 - Valued according to linear feet of surface.
 - Examples are: studding, wall sheathing, brick or wood siding, wall insulation, interior finish, or exterior walls.





Guidelines Chapter 6

- Horizontal Cost components:
 - Structural components that are horizontal in nature.
 - Linked directly to the square feet of floor area.
 - Examples are: floor slabs, structural floors, floor covering, ceiling covering, roof structure, roof covering, and insulation.





Guidelines Chapter 6

- Understanding the Perimeter-to-Area Ratio of a Structure (page 15) & (2 examples on pages 16 – 17)
 - Divide the perimeter (add the dimensions on the four sides together) by the area (multiply the length times the width) and multiply the result by 100 to determine the ratio to be used.





Guidelines Chapter 6

- Perimeter-to-Area Ratio
 - Used to convert the vertical cost of a structure into a dollar amount per square foot.
 - If there is more than one floor, the PAR should be calculated for each floor.





Guidelines Chapter 6

- If the PAR is greater than 10: (page 40)
 1. Subtract 10 from the calculated PAR.
 2. Multiply the adjustment price in the “+1” column in the same row by the result of the subtraction.
 3. Add the result of the multiplication to the base rate in the “10” column in the schedule.





Guidelines Chapter 6

- Determining a Structure's Construction Type: (page 17 & 18)
 - Base rates for GCM and GCI are based on framing that is fire resistant construction.
 - Base rates for GCR are based on wood joist construction and must be adjusted for fire resistant construction.





Guidelines Chapter 6

- How many property record cards to use?
 - Determined on a parcel by parcel basis.
 - Depends on either the number of structures that require a sketch area or the number of structures and yard improvements that are recorded in the “Summary of Improvements” section.





Guidelines Chapter 6

- Determining average wall height: (page 39)
 - If a structure has two or more sections with varying exterior wall heights you must arrive at an average wall height.
 1. Determine the percentage of the structure containing each wall height.
 2. Multiply each percentage by its corresponding wall height.





Guidelines Chapter 6

3. Determine the average wall height for the structure by adding the results of 1 and 2 and rounding to the nearest whole number.
- Keep in mind that once you arrive at an average wall height, that is the wall height you use to compute the value of the property.





Problem 1

- A commercial building contains a total of 5,200 square feet. Of this total, 3,900 square feet of the area has a wall height of 16 feet. The remaining 1,300 square feet of the area has a wall height of 14 feet. What is the average wall height for this structure?





Problem 1 Answer

1. $3,900 \text{ divided by } 5,200 = 75\%$
 $1,300 \text{ divided by } 5,200 = 25\%$

2. $16' \times .75 = 12'$
 $14' \times .25 = 3.5'$

$12' + 3.5' = 15.5'$ rounded to 16 ft.





Problem 2

- A commercial building measures 200 feet by 500 feet. What is the PAR of this structure?





Problem 2 Answer

- $200 + 200 + 500 + 500 = 1,400$ (perimeter)
- $200 \times 500 = 100,000$

- $1,400$ divided by $100,000 = .014$
- $0.014 \times 100 = 1.4$ or a PAR of 1





Guidelines Chapter 6

- If a structure has more than one use type: (page 40 & 41)
 1. Determine the PAR for the structure.
 2. Determine the use type for each finish type in the structure.
 3. Using Schedule A, determine the base rate for each use type.





Guidelines Chapter 6

4. Determine the percentage of floor space occupied by each use type by dividing the area for each use type by the total area x 100.
5. Multiply the base rate for each use type by the percentage of that use for each floor.
6. Add the results of Step 5 for each use type together to get an adjusted base rate.

